

# Alabama Forest Health Highlights 2016

## The Resource

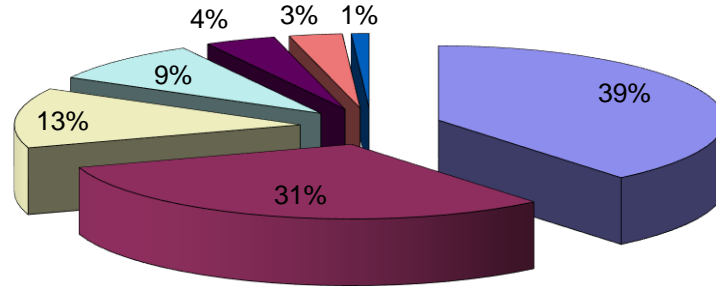
Alabama has had several interesting slogans to describe this very unique region in the south. “The Cotton State” was an early slogan used to describe one of the main industries in Alabama, but this state is not the only one in the country that produces a significant amount of cotton. So to be more distinctive, the state later adopted the phrase, “Sweet Home Alabama” inspired by the famous song as the official slogan for travel and tourism. There was even on occasion that the tourism agency used the catch phrase, “Where America Finds its Voice: Alabama” to describe the state’s participation and notable wins in the popular television show, American Idol. These slogans and others used to describe Alabama are historically cited, but the one motto that has perfectly encompassed the aura of this land is “Alabama the Beautiful”.

The beauty of Alabama’s landscape naturally flourishes because of the contrasting forests that bring aesthetics, wildlife and vegetation diversity. The steep slopes of the Appalachian Mountain plateaus in Northeast Alabama promote montane longleaf pines and mixed hardwood forests. The black belt region that stretches across the center of the state is known for its agriculture and timber production. Tall persisting pine stands with intermittent bottomland hardwoods on the sandy coastal plain are indicative of South Alabama.

The green infrastructure of forests is not thriving by default, these ecosystems exist in part because of conservation and sustainable efforts from human intervention. These land management practices ensure that perpetual forests, wildlife habitat, clean water, outdoor recreation, picturesque views and tourism opportunities will persist in the state. All entities, from private landowners to community volunteers are working together to keep the integrity of this region’s forest ecosystem. As a result, the structural makeup of the state’s forests basically remains the same year after year since 1926. From a percent status, the forest type categories had no measurable change from last year.

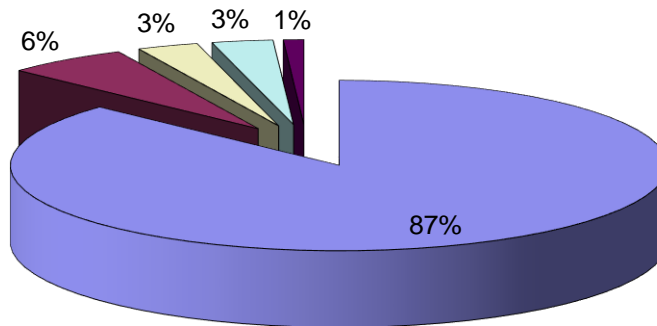
The pattern of forestland ownership in Alabama is not as consistent. The majority of forestland in the state is owned by non-industrial private landowners. In fact, this category owns more than eighty percent of the total forestland in the state. Forest industry is the second largest ownership category, but with a significantly smaller percentage of the property in the state. Despite being a major component of Alabama’s economy, forest industry continues to divest its property, reducing ownership by one percent from last year. Over the last six years, forest industry has consistently reduced its property holdings, and continues to follow this pattern today. When first reported in 2010, forest industry owned thirteen percent of the forestland in Alabama and now it owns six percent, less than half of the original amount.

## Alabama Forest Type Distribution



- Loblolly Pine/Shortleaf Pine 39% (8,985,122 ac)
- Oak/Hickory 31% (7,077,693 ac)
- Mixed Hardwood/Pine 13% (2,925,956 ac)
- Oak/Gum/Cypress 9% (2,178,321 ac)
- Longleaf Pine/Slash Pine 4% (1,032,740 ac)
- Elm/Ash/Cottonwood 3% (601,005 ac)
- Other 1% (325,741 ac)

## Alabama Forestland Ownership Distribution



- Non-industrial Private Landowner 87% (20,176,200 ac)
- Forest Industry 6% (1,441,600 ac)
- U. S. Forest Service 3% (656,100 ac)
- State and Local Government 3% (555,500 ac)
- Other Federal Land 1% (285,700 ac)

## Forest Influences and Programs

### **Southern Pine Beetle, *Dendroctonus frontalis*:**

The results from the 2016 spring southern pine beetle pheromone survey highly suggested that Alabama would experience a slight increase in the number of infestations. More specifically, the results indicated that there would be a significant number of beetle infestations on the Talladega National Forest, Oakmulgee District. As predicted, there was an overall increase in the number of beetle infestations in the state. Because of the predicted increase of beetle infestations on the national forest, there were separate aerial detection surveys conducted over the property.

Southern pine beetle (SPB) detection flights were conducted from May through September, 2016 for all 67 counties in Alabama. The number of beetle infestations was quite high this year in certain areas of the state. By late summer, Alabama started experiencing complications from a drought. The drought continued well into the fall season causing additional stress on residual pines. The drought situation caused other forest-related problems as well. As a result, supplemental southern pine beetle aerial surveys scheduled for October were ceased because of the heightened number of wildfires in the state. From the combined southern pine beetle (SPB) aerial surveys conducted in 2016, the total amount of spots detected was 691, infesting 36,346 trees. Some of these beetle infestations detected were caused by the pine engraver beetle.

In 2015, a new SPB Prevention Cost-share Program was implemented for non-industrial private forest landowners. This cost-share program offered financial assistance for pre-commercial thinning and understory prescribed burning for existing loblolly or shortleaf pine stands that are at least 10 acres in size. Additional prevention practices offered for financial assistance under this program were mechanical or chemical site preparation and site preparation burning for longleaf pine planting. The announcement for the 2015-2016 SPB Prevention Cost-share Program was released in May, 2015. A total of 120 non-industrial private forest landowners applied for the cost-share program, but because of the high enrollment and the limited amount of funds, a meeting was conducted to prioritize applications and practices for approval. As a result, the understory prescribed burning practice was denied funding and only 47 landowners were approved into the program. By the end of October, 2016, a total of 3,186 acres were completed under the cost-share program with some acres having more than one prevention practice conducted.

### **Pine Engraver Beetle, *Ips spp.*:**

In fiscal year 2016, there was not a significantly high number of pine engraver beetle infestations reported in the state. During the statewide SPB aerial surveys, several spots were later identified as pine engraver beetle infestations after completing a ground compliance check. The pine engraver beetle infestations identified were mainly isolated spots that were detected in lightly infested counties. For example, the three aerially detected spots in Baldwin County, AL were all pine engraver beetle infestations. The counties that were heavily infested like Choctaw and Clarke had practically all of their detected spots identified as a southern pine beetle infestation.

### **Sudden Oak Death Disease, *Phytophthora ramorum*:**

The sudden oak death spring survey was conducted from March to April, 2016 at five different nursery sites in Alabama using the "Bottle of Bait" sampling method. The results from the 2016

survey did not indicate any new revelation or discovery of the pathogen, *Phytophthora ramorum*, at any of the nursery sites in Alabama. In October, 2016, the sudden oak death fall survey began, testing the same five nursery sites for the harmful pathogen.

**Thousand Cankers Disease, Fungus-*Geosmithia morbida* and Walnut Twig Beetle-*Pityophthorus juglandis*:**

In late spring, the Alabama Forestry Commission (AFC) North Region along with the University of Tennessee and the Tennessee Valley Authority worked together to deploy walnut twig beetle (*Pityophthorus juglandis*) traps in the state. Because the pest thousand cankers disease is fast approaching the state line from Tennessee, the AFC north regional counties participated in the survey by placing one beetle trap in each county. The traps were deployed from July to the end of October. Specimens were collected from the traps and sent to the University of Tennessee for identification. Currently, no walnut twig beetles were identified in any of the 12 traps deployed in Alabama. The Alabama Department of Agriculture and Industries also deployed 120 walnut twig beetle traps this summer in the state. From the latest report, there were no beetles found in any of the traps.

**Laurel Wilt Disease, Fungus-*Raffaelea lauricola* and Redbay Ambrosia Beetle-*Xyleborus glabratus*:**

In July, 2016, there were several reports of possible laurel wilt disease in Baldwin County, AL; but unlike last year, the reports were confirmed to be true. Stem samples from host redbay trees in Baldwin County were sent to the Forest Service and to the Alabama Cooperative Extension System laboratories for analysis. The results from the stem samples (from both laboratories) confirmed the presence of the fungus (*Raffaelea lauricola*) and/or the redbay ambrosia beetle (*Xyleborus glabratus*). Because this disease complex had spread so rapidly in Baldwin County, other neighboring counties were surveyed. Any symptomatic host tree that was found, stem samples were collected and sent to the Forest Service laboratory for analysis. Parts of Choctaw, Washington, Clarke, Wilcox, Dallas, Perry, Covington, Geneva and Houston Counties were surveyed for laurel wilt disease. Traps were deployed in these counties for the redbay ambrosia beetle. One trap per county was deployed in early August and remained in place until mid-October. The trap in Dallas County was the only one to collect redbay ambrosia beetles. During this time, stem samples collected from Wilcox and Dallas Counties were also positive for the fungus (*Raffaelea lauricola*). Overall, three new counties in the state this year – Baldwin, Wilcox and Dallas – were confirmed to have laurel wilt disease. An informal announcement was released this summer to inform county personnel that laurel wilt disease had extended its range in the state into three additional counties.



Dead redbay tree infected with laurel wilt disease in Mobile County, AL

**Gypsy Moth, *Lymantria dispar*:**

Because of long distance movement of wood and other susceptible materials, there was a reasonable concern that gypsy moth may potentially be introduced into Alabama. As a result, periodic surveys have been conducted by the Forest Service to monitor the presence of this exotic pest. Since 2008, the Alabama Forestry Commission has been receiving the final survey report from the Forest Service. Like the previous years, the Forest Service in 2016 deployed 12 gypsy moth (*Lymantria dispar*) traps in strategically identified locations in the state. At the end of the surveying period, no gypsy moths were found in any of the traps this year.

**Emerald Ash Borer, *Agrilus planipennis*:**

This year, the United States Department of Agriculture (USDA) hired an independent contractor to deploy over 400 emerald ash borer traps in the state. The traps remained in their designated location from May to September, 2016. In October, 2016, the Alabama Forestry Commission was informed that 2 emerald ash borers were caught in a trap located in Calhoun County, AL and later positively identified from laboratory analysis. For the first time this year, Alabama has joined other states with having this federally regulated, non-native pest. An informal announcement was released by email to county personnel that emerald ash borer insects were caught in a trap located in Calhoun County. Because the emerald ash borer was found in the



state, the Alabama Department of Agriculture and Industries initiated an official quarantine for the affected counties of Calhoun, Cherokee and Cleburne.



Routine check of purple emerald ash borer trap deployed in Alabama

### **Oak Leaf Gall Mite, *Pyemotes herfsi*:**

The oak leaf gall mite was reported for the first time infesting red oaks on residential property in Lauderdale County. The Alabama Cooperative Extension System office in that county informed the Alabama Forestry Commission about this exotic pest, but a formal confirmation was not forwarded. Thought to originate from Europe, the oak leaf gall mite was first identified in Kansas. Since its introduction into the United States, this pest has spread to several other states, including Tennessee, the one closest to Alabama. The oak leaf gall mite not only compromised the aesthetics of affected oaks, but this pest has also caused a red, itchy and painful rash from bites on individuals near the infestation.

### **Dying Red Oaks, *Quercus spp.*:**

A seasonal drought from late summer to early autumn caused significant drought-related problems. Certain species of trees were quite vulnerable to the excessive and extensive drought. The northern half of the state was affected the most. Some red oaks in this area of Alabama started showing signs of decline by late summer. Leaves were turning brown and defoliating early. From close analysis of symptomatic oaks, there were no signs of a particular insect or

disease pest. Because the leaves of affected red oaks were turning brown, there was a possibility that some of these trees were infected with bacterial leaf scorch.

**Cogongrass, *Imperata cylindrica*:**

The Alabama Forestry Commission (AFC) completed accomplishments under the Cogongrass Competitive Grant by educating the public, detecting spots, entering information into the AFC database and writing management recommendations for cogongrass. More specifically, county personnel detected 337 spots that encompassed 9,303 acres. The AFC county personnel also spray-treated several cogongrass infestations located on agency-managed state lands. On state properties, 409 acres of cogongrass infestations were controlled by herbicide application.

**Kudzu, *Pueraria montana*:**

The number of acres sprayed with Milestone to control kudzu infestations on agency-managed properties declined in 2016. For example, herbicide application was conducted in 2014 and 2015 on the Thorsby Seed Orchard, but no spraying was done in 2016. When evaluating the treated acres at the seed orchard, noticeable sprigs were emerging in some areas.

Red Mountain Park, a sub-recipient of the Kudzu Competitive Grant, continued to implement control treatments for kudzu even though the agreement ended on September 30, 2015. Because of the overwhelming response from the public, Red Mountain Park contracted once again with 'Goat Busters' to use the unconventional method of goats to control invasive plants. Funding from the grant paid to rent the Kiko goats along with Great Pyrenees dogs to reside on the property for approximately one year. The contact ended in August, 2016 and the goats along with the dogs were transferred back to Virginia.





Kudzu re-sprouting on areas treated with Milestone at Thorsby Seed Orchard in Chilton County, Alabama.

### **Environmental and Climatic Events**

The climate this year in Alabama was inconsistent. This past winter, the weather was unusually warm and wet. In fact, during the month of December, 2015, Alabama experienced the warmest and wettest December on record since 1895. Even into the month of February, 2016, the temperatures in certain areas of Alabama were 15 to 20 degrees Fahrenheit above normal with atmospheric moisture greater than 200 percent from average. Periodic cold fronts moving into warm climates created a perfect environment for tornadoes.

Surprisingly, there was no significant forest damage from seasonal storms or tornadoes this year. Three informal tornado reports, however, were completed. On December 24, 2015, the unusual climate prompted several tornadoes in the state. One tornado in particular traversed across Lauderdale County, destroying 400 acres of forestland. In late winter, there were 2 storm systems that moved through Alabama. The tornadoes on February 2, 2016 destroyed 950 acres of forestland in Pickens and Lamar Counties. The last reported tornado in the state was on February 15, 2016 that traversed across Conecuh County. No measureable timber damage was recorded.

By late summer, Alabama started experiencing complications from several weeks of drought conditions. For example, oak trees affected by this extreme climate defoliated their leaves early increasing the amount of debris on the forest floor. By the latter part of September, the extensive



drought was causing a significant number of wildfires in the state. There had been 1,637 wildfires that burned 19,972 acres during the 2016 fiscal year (October 1, 2015 to September 30, 2016). The extreme dry conditions, however, continued well into the fall season. By October, 2016, wildfires were occurring sporadically in Alabama, especially in the northern half of the state. Consequently, the Alabama Forestry Commission had to prioritize responsibilities to primarily focus on suppressing the numerous wildfires. Because of the heightened number of fires in early fall, the Alabama Forestry Commission started documenting these occurrences. From October 1 to October 26, 2016, there had been 1,028 wildfires consuming 11,232 acres. Thus, on October 27, 2016, the Governor of Alabama agreed to establish a Drought Emergency on 46 northern and central counties in Alabama and a Fire Alert on the remaining ones in order to try and cease the number of wildfires in the state.

## **References**

- Alabama Forest Resource Information – Alabama Forestry Commission Forestry Inventory Analysis (FIA) Data
- Alabama Wildfire Information – Alabama Forestry Commission Fire Operations Section
- Alabama Forest Health Information – Alabama Forestry Commission Forest Health Section
- Alabama Climate Report – Alabama Forestry Commission Forest Management Division

For more information about Alabama's forest health program, go to the Alabama Forestry Commission's website: <http://www.forestry.alabama.gov>.

## **Forest Health Assistance in Alabama**

Alabama Forestry Commission  
Forest Health Section  
513 Madison Avenue  
Montgomery, AL 36104  
Office #: 334-240-9363  
[Dana.Stone@forestry.alabama.gov](mailto:Dana.Stone@forestry.alabama.gov)

USDA Forest Service  
Southern Region, State & Private Forestry  
Forest Health Protection  
2500 Shreveport Highway  
Pineville, LA 71360  
Office #: 318-473-7286  
<http://www.fs.fed.us/r8/foresthealth/>

Alabama Cooperative Extension System  
Plant Diagnostic Laboratory  
961 South Donahue Drive  
Auburn, AL 36849  
Office #: 334-844-4336

[Alabama Plant Diagnostic Lab web link](#)

Alabama Department of Agriculture and Industries  
Plant Protection Division  
1445 Federal Drive  
Montgomery, AL 36107  
Office #: 334-240-7100

[Alabama Department of Agriculture Plant Protection Division web link](#)